



# A Strategic Direction for Agriculture for Hawaii



Agriculture Strategy Working Group

# Table of Contents

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- Part 1: An Assessment of Agriculture  
Import Commodity volumes - Include chart/graph to explain import/local  
production yearly ratio/trend  
Local Commodities that can be scaled to replace imports  
Commodities to be scaled for value-added products
- Part 2: Matching Commodity to Regions
- Part 3: Pilot Regional/Area Plans – Production only, Processing only, Production and Processing  
West Kauai (Food Crops; Livestock)  
West Maui (Food Crops; Livestock)  
Central Oahu (Food Crops; Livestock)  
East Hawaii (Ornamentals)  
Leeward Oahu (Food Crops; Livestock)  
North Shore, Oahu (Aquaculture; Swine)
- Part 4: Potential Incentives and Programs Supporting Agriculture  
State  
County  
Land Acquisition Strategies
- Part 5: Partnerships
- Part 6: Legislative Accomplishments
- Part 7: Next Steps
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# 1. An Assessment of Agriculture

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# Assessment of Agriculture in Hawaii

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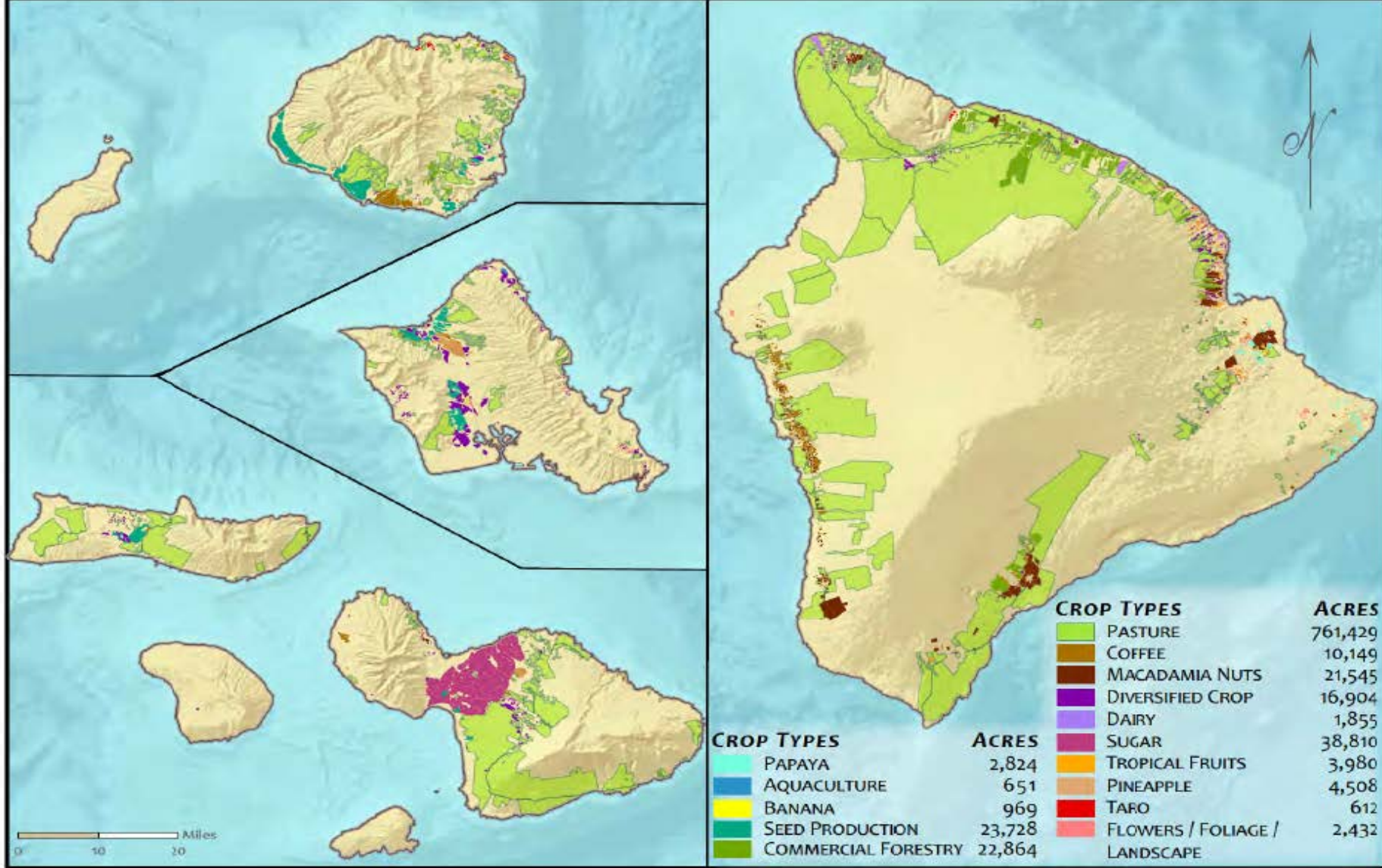
- ▶ Downsizing of sugar and pineapple in the 1990s ended plantation agriculture in Hawaii
- ▶ Active agricultural lands decreased from 350,830 acres in 1980 to 151,830 acres in 2015
- ▶ Industry was unprepared to transition from pineapple and sugar to diversified agriculture
- ▶ Hawaii remains largely dependent on imported foods
- ▶ Agriculture industry lacks investment capital in Hawaii
- ▶ Local farmers lack the knowledge of matching crops to growing regions
- ▶ Hawaii's climate does not allow farmers to grow all imported products
- ▶ Focus should be on growing products that can be grown in Hawaii and increasing exports (i.e. value-added goods)

# Topics to Address

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- ▶ Identify regions to develop economies of scale for the purposes of cost control and price competitiveness
- ▶ Identify commodities that can replace imports and commodities that will increase exports (i.e. value-added products) based on private distributors
- ▶ Match commodities with regional pilot project areas to see growth potential
- ▶ Create a comprehensive approach to address problems of housing, workforce training, and research





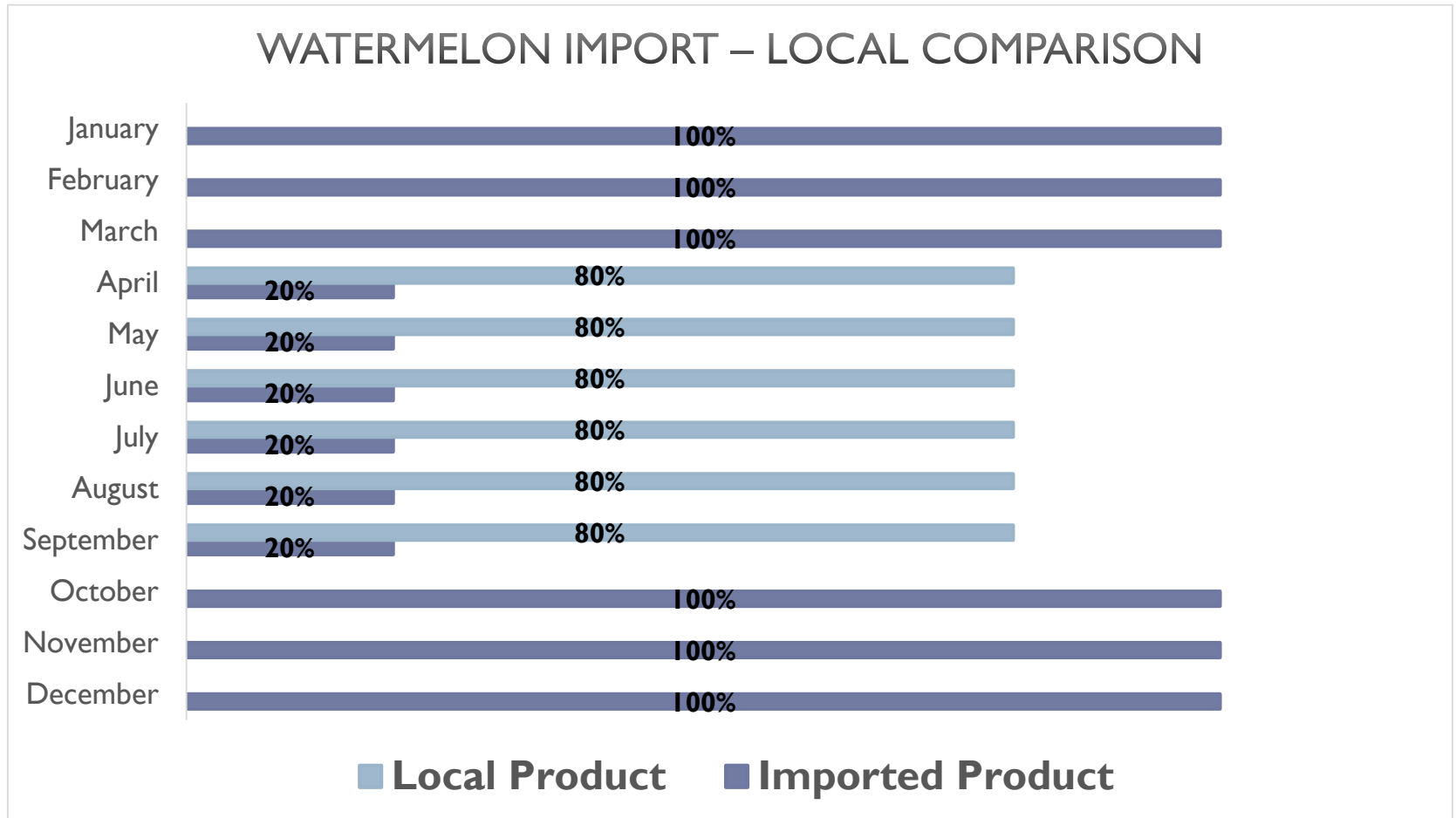
UNIVERSITY  
of HAWAII  
**HILO**



## HAWAII AGRICULTURAL LAND UTILIZATION (2015)

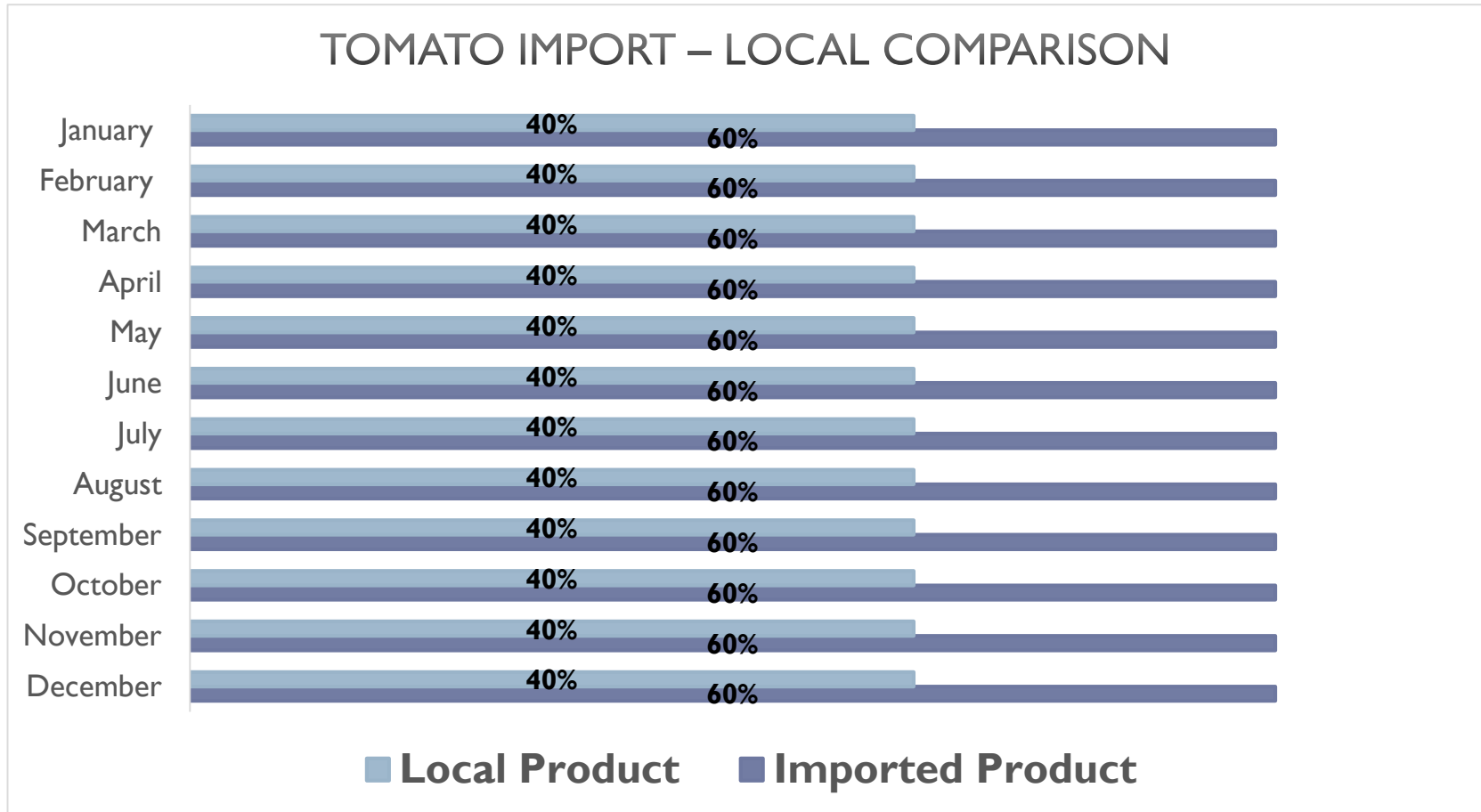


# Import Commodity Volumes



During Hawaii's watermelon season, local growers are able to supply 80% of market demand with local watermelons

# Import Commodity Volumes



Hawaii's local growers are able to supply 40% of the tomato market demand year round.



# Scalable Local Commodities to Replace Imports

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## I. Fruits

- ▶ Tropical and Exotic Fruits, Citrus, Melons, Avocado, Berries

## 2. Vegetables

- ▶ Asparagus
- ▶ Leafy Greens: Spinach, Lettuce, Cabbage
- ▶ Cole Crops: Broccoli, Cauliflower, Mushrooms, Peppers, Sweet Potato, Potatoes
- ▶ Root Vegetables: Beets, Radishes, Green Turnips, Chop Suey Yams, Squashes, Taro, Onions (bulb)

## 3. Aquaculture

- ▶ Fish and Shrimp

## 4. Livestock, Hogs, Poultry

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- ▶ Source: College of Tropical Agriculture and Human Resources

# Scalable Local Commodities for Value-added Products

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- ▶ Tomatoes
- ▶ Cucumbers
- ▶ Breadfruit
- ▶ Coffee
- ▶ Macadamia Nuts
- ▶ Lilikoi
- ▶ Cacao
- ▶ Teas and Mamaki
- ▶ Honey
- ▶ Lavender



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3. Pilot/Regional Project Areas  
Production only, Processing only,  
Production and Processing

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# Matching Commodity to Pilot Regions

West Kauai	Central Oahu	West Maui	East Hawaii	Leeward Oahu	North Shore
Mango	Broccoli	Mango	Anthurium	Livestock	Freshwater Aquaculture
Eggs	Cauliflower	Coffee	Cacao	Poultry	Saltwater Aquaculture
Livestock	Cabbages	Tropical Fruits	Avocado	Hogs	Hogs
Breadfruit	Lettuces		Exotic Tropical Fruits	Fruits and Vegetable	Sea Asparagus
Sweet Potato	Spinach		Sweet Potato		Aquaponics
Citrus	Teas and Mamaki		Taro		
	Citrus		Root Ginger		
	Watermelon		Orchids		
	Bananas		Foliage		
	Green Onions		Eggplant		
	Avocado		Peppers		
	Livestock		Jackfruit, Durian		

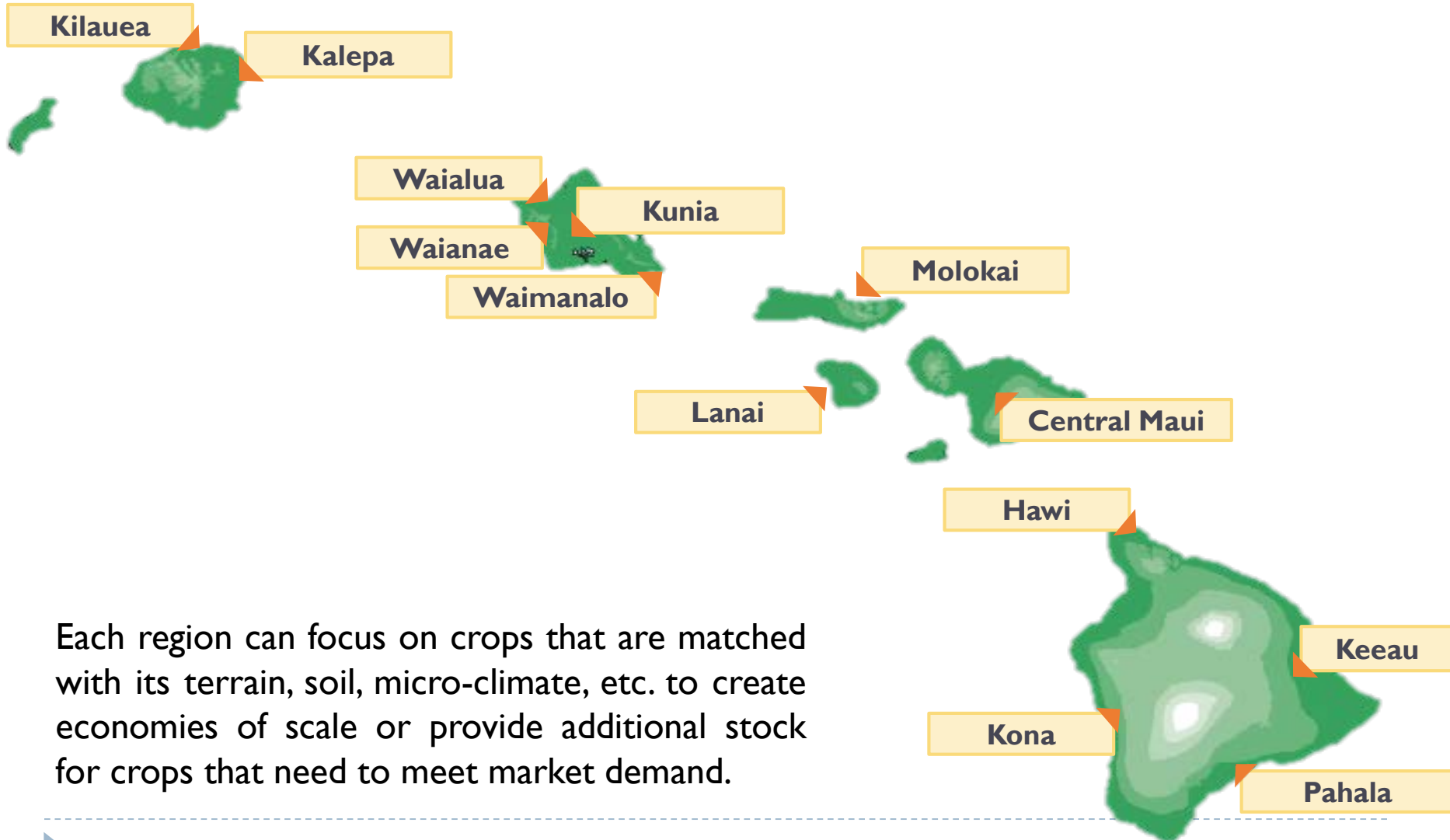
# Pilot/Regional Project Areas

Categories	West Kauai	Central Oahu	West Maui	East Hawaii	Leeward Oahu	North Shore
Land Maps/ TMKs	State	State	Private (ML&P)	Private, State, DHHL	State	State
Access to markets	Kauai; Transport to Oahu	Oahu	Maui; Transport to Oahu	Exports	Oahu; Transport to Neighbor Islands	Oahu
Production and Processing-Packaging	Production and Processing- Packaging	Production and Processing-Packaging	Production and Processing- Packing	Production Only	Processing- Packing Only	Production and Processing- Packaging
Water/Irrigation	KAA	Irrigation Needed	West Maui Irrigation	Irrigation Needed	County	Freshwater Well
Housing	Needed	Needed	Existing	Needed	Needed	Needed
Community Plans	Waimea-Kekaha Regional Development Plan	Wahiawa Urban Design Guidelines	Pulelehua Subdivision	Envision Downtown Hilo	Kapolei Urban Design Plan	Haleiwa Commercial Redevelopment

▶ Source: State of Hawaii, County of Hawaii, County of Maui, City & County of Honolulu, County of Kauai

# Other Potential Regions

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Each region can focus on crops that are matched with its terrain, soil, micro-climate, etc. to create economies of scale or provide additional stock for crops that need to meet market demand.

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# Potential Workforce

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- ▶ **Agricultural Engineers: 7 job postings**
  - ▶ \$97,000 average salary
- ▶ **Agricultural Equipment Operators: 15 job postings**
  - ▶ \$47,000 average salary
- ▶ **Agricultural and Food Science Technicians: 498 job postings**
  - ▶ \$43,000 average salary
- ▶ **Agricultural Inspectors: 59 job postings**
  - ▶ \$48,000 average salary
- ▶ **Farmers, Ranchers, Agricultural Managers: 9 job postings**
  - ▶ \$61,000 average salary
- ▶ **Soil and Plant Scientists: 154 job postings**
  - ▶ \$61,000 average salary

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## 4. Incentives and Programs

### Marketing, Programs, and Acquisition

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# Marketing, Programs, and Acquisition

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- ▶ **Eat and Buy Local**
  - ▶ Buy Local Campaign needs to be seasonal, focused on specific commodities
  - ▶ Food and Wine Festivals to feature local commodities
  - ▶ State Agencies and vendors to purchase local
- ▶ **Programs**
  - ▶ Create an agency to invest capital into agriculture companies and retain equity
  - ▶ Shipping incentives and tax credits
  - ▶ Enterprise Zone
  - ▶ Foreign Trade Zone
  - ▶ Tax Incentives to comply and invest in Food Safety
  - ▶ Expand ag loan programs
  - ▶ Provide grants for agriculture companies
  - ▶ Reduce cost to hook up to county water system
- ▶ **Acquisition**
  - ▶ Land exchange
  - ▶ Purchase existing irrigation infrastructure to preserve for future use
  - ▶ Budget appropriations to purchase land
  - ▶ Expand uses for barrel tax funding



# Venture Capital for Ag-Tech

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- ▶ Farm companies need to utilize venture capitalism to raise investment
- ▶ Over \$320 million raised by ag-tech companies in 2017
- ▶ Agriculture Venture Capitalists
  - ▶ The Yield Lab
  - ▶ S2G Ventures
  - ▶ Lewis & Clark Ventures
  - ▶ Monsanto Growth Ventures
  - ▶ New Crop Capital
  - ▶ Better Food Ventures
  - ▶ Greensoil Investments
  - ▶ Closed Loop Capital
  - ▶ Cultivian Sandbox Ventures

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## 5. Partnerships

State, County, and Private Sector

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## 6. Legislative Accomplishments

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# Legislative Accomplishments

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- ▶ \$75.4 million to purchase nearly 2,900 acres of agricultural land in Central Oahu
- ▶ \$13 million to upgrade the Galbraith Irrigation System
- ▶ \$6.5 million to upgrade the Waiahole Water System
- ▶ \$1.35 million to masterplan the Whitmore Agribusiness Technology Park
- ▶ \$750,000 for the Campbell Industrial slaughterhouse
- ▶ Re-designate and extend the enterprise zones for Oahu



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## 7. Next Steps

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# Next Steps

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## ▶ Administrative Tasks:

- ▶ Fund consultant to calculate import and export quantities, farm to develop economies of scale to justify processing and packaging, acreage for each crop to be scaled in each region and water needs to support scaling the commodity
- ▶ Partner with key state and county agencies to address housing, workforce development, R&D
- ▶ Require state agencies and concessions to procure certain percentages of food products locally
- ▶ Trials crops by CTAHR in identified areas
- ▶ Develop new varieties annually
- ▶ Condition leases so farmers grow crops needed in the state
- ▶ Develop agriculture into a budget priority

## ▶ Legislative Tasks:

- ▶ Establish Ag Excelsior under ADC so state provide capital to ag companies for equity
- ▶ Establish reimbursement transportation cost program under DOA
- ▶ Support Governor's budget for agriculture

## ▶ Economic Development Tasks:

- ▶ Develop regional and/or commodity champions
  - ▶ Integrate rural agriculture into visitor experience
  - ▶ Develop Hawaii into a center to serve as focal point of development, exchange and sale of information and services
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# Timeline

## Phase 1

- Present report to HDOA, ADC, and Agriculture Committee Chairs
- Adopt one plan (update plan every 3 years) and fund agriculture economist to calculate import and export baseline
- HDOA present to Governor as a plan to double local food production
- CTAHR to begin trial crops in identified pilot regions

## Phase 2

- Include available agricultural lands in the Governor's budget request to the Legislature
- Invest or purchase critical water infrastructure to provide water to farmers
- Develop champion legislators or crops to launch pilot region

## Phase 3

- Require, through legislation, that the Governor act upon the recommendations of the report
- Expand pilot areas to other regions identified in report